

AMENDMENTS

Please amend the captioned application as follows:

In the Claims

Please substitute the following claims for claims of the same number previously pending. A marked up version of these amended claims is attached hereto as Attachment

1.

1. (Twice Amended) A signal measurement system comprising:

an acquisition memory; and

B₁ a pulse management system configured to automatically perform a series of pulse measurements on a previously-acquired time-varying analog signal comprising a plurality of pulses, samples of which are stored in the acquisition memory, wherein the pulse management system generates for storage in a searchable data structure pulse characteristics of each of the plurality of pulses, wherein for each of the plurality of pulses, said pulse characteristics comprise results of the one or more pulse measurements.

25. (Twice Amended) A signal measurement system comprising:

an acquisition memory; and

B₂ a pulse management means for automatically performing a series of pulse measurements on a previously-acquired time-varying analog signal comprising a plurality of pulses, samples of which are stored in the acquisition memory, and for generating for storage in a searchable data structure pulse characteristics of each of the plurality of pulses, wherein for each of the plurality of pulses, said pulse characteristics comprise results of the one or more pulse measurements.

B₃ 44. (Twice Amended) A method for generating a searchable pulse data structure for storage in a memory apparatus operationally coupled to a signal measurement system, said data structure comprising a plurality of signal pulse characteristics of pulses of a previously-acquired time-varying analog signal samples of which are stored in an acquisition memory of the signal measurement system, the method comprising the steps of:

1) automatically performing a series of pulse measurements on a previously-acquired time-varying analog signal comprising a plurality of pulses, samples of which are stored in the acquisition memory; and

2) generating for storage in a searchable data structure pulse characteristics of each of the plurality of pulses, wherein for each of the plurality of pulses, said pulse characteristics comprise results of the one or more pulse measurements.

53. (Amended) The signal measurement system of claim 52, wherein said signal pulse characteristics further comprise:

a time of occurrence data unit associated with each pulse identifier data unit in said database, said time of occurrence data unit indicating a time said associated pulse occurred relative to a time at which a trigger event causing said storage of said acquired signal occurred.

54. (Amended) The signal measurement system of claim 53, wherein said database further comprises:

global measurement statistics data units for one or more of said plurality of pulse measurements, wherein said global statistics are associated with said acquired signal in said data structure.

57. (Amended) The signal measurement system of claim 52, wherein said database has a data format suitable for an implementing application.

59. (Amended) The signal measurement system of claim 54, wherein each of said plurality of pulse measurement results data unit associated with each of said plurality of pulse identifier data units in said database comprise one or more of the group consisting of:

- rise time measurement results;
- fall time measurement results;
- pulse width measurement results;
- preshoot measurement results;
- pulse area measurement results;
- minimum voltage measurement results;
- maximum voltage measurement results;
- average voltage measurement results;

volts AC RMS measurement results;
volts DC RMS measurement results;
amplitude voltage measurement results;
base voltage measurement results;
top voltage measurement results;
upper voltage measurement results;
middle voltage measurement results;
lower voltage measurement results;
plus width measurement results;
minus width measurement results;
positive duty cycle measurement results;
negative duty cycle measurement results;
period measurement results;
phase measurement results;
frequency measurement results;
delta time measurement results;
peak-to-peak voltage measurement results; and
overshoot measurement results.

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Cont
60. (Amended) The signal measurement system of claim 52, wherein said plurality of pulse identifier data units and said associated pulse characteristic data units are arranged in said database in a same sequence as said corresponding signal pulses occur.

61. (Amended) The signal measurement system of claim 52, wherein said pulse characteristic data units and said pulse identifier data units are stored in said pulse database automatically and with no operator involvement.

62. (Amended) The signal measurement system of claim 52, wherein said database is populated automatically and in accordance with measurement parameters.

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64. (Amended) The signal measurement system of claim 52, wherein said database is generated and populated by said pulse characteristics in response to an acquisition memory storing said acquired signal.
